

CLAIMS

We claim:

2234 1. A labeling machine having the ability to detect the presence of an empty package or the absence of a package on a packaging machine system, said labeling machine comprising at least one proximity sensor placed in front of the labeling machine to detect the presence of an empty package or the absence of a package on a packaging machine prior to the empty package or empty space on the packaging machine reaching the labeling machine and to communicate such information to the labeling machine such that the labeling machine will not dispense a label for an empty package or absent package on the packaging machine system.

10 2. A labeling machine recited in claim 1, wherein the labeling machine is designed to place labels on an array of packages on a multiple track packaging machine.

3. A labeling machine recited in claim 2, having at least one proximity sensor positioned over each track of the multiple track packaging machine.

15 4. A labeling machine recited in claim 1, wherein said sensors are capacitive proximity sensors.

5. A labeling machine recited in claim 1, wherein said sensors detect the conductivity in the product due to moisture contained in the product to be packaged.

2235 6. A labeling machine recited in claim 1, wherein said sensors are placed at least one row ahead of the row being labeled.

7 A method for detecting an empty package or the absence of a package on a packaging machine system to prevent the unnecessary dispensing of labels onto empty or absent packages, said method comprising the steps of:

5 placing at least one sensor in front of a labeling machine to detect the presence of an empty package or absence of a package on a packaging machine system,

the sensor communicating the detection of an empty package or absence of a package to the labeling machine;

10 the labeling machine reading such communication and preventing the dispensing of a label for a package when a sensor has detected that such package for which the label is to be dispensed is either an empty or absent package.

8. A method for detecting an empty package or the absence of a package on a packaging machine system as recited in claim 7, wherein said method further includes placing at least one sensor over each track of a packaging machine system when utilizing a labeling machine for labeling an array of packages.

15 9 A method for detecting an empty package or the absence of a package on the packaging machine system as recited in claim 7, further comprising the step of communicating the information detected by the sensors with respect to each package in an array of packages to the labeling machine in the order that the labeling machine dispenses the labels for such packages on the tracks of the packaging machine.

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10 An method for detecting an empty package or the absence of a package on a packaging machine system to prevent the unnecessary dispensing of labels onto empty or absent packages, said method comprising the steps of:

5 placing proximity sensors at least one row ahead of the row being labeled by a labeling machine designed to label an array of packages;

the labeler calling for a snap-shot of the signals being given by the sensors as they relate to the proceeding row of articles;

10 storing said snap-shot of signals as a series of bits corresponding to the positioning of each sensor;

the labeler reading the series of bit information when dispensing the row of labels that corresponds to the row of articles for which the information was taken and dispensing labels only when such sensors detect the presence of a package filled with product.

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